

THE TAXONOMY OF SOME INDO-PACIFIC MOLLUSCA PART 11

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Abstract. New range extensions are recorded for *Cypraea katsuae* (Kuroda), *Mitra deynzeri* Cernohorsky, *M. bellula* A. Adams, *Vexillum millecostatum* (Broderip) and *Clavus papillosus* (Garrett). On the basis of their type-specimens *Murex brachys* Melville & Standen, is synonymised with *Morula echinata* (Reeve), *Sistrum morus* var. *borealis* Pilsbry, with *Morula japonica* (Sowerby), *Pentadactylus ceylonicum* Preston, with *Cronia contracta* (Reeve), *Bullia strenaria* Melvill, with *B. melanoides* (Deshayes in Bélanger), *Microvoluta ponderi* Cernohorsky, with *M. miranda* (E.A. Smith), and *Hindsia rewaensis* Ladd, with *Neadmete nausorensis* Ladd. Type-specimens of *Thais squamigera* (Deshayes in Bélanger), *Microvoluta teretiuscula* (Thiele) and *Volutomitra hotentotta* (Thiele) are illustrated, and the identity of *Vexillum ochracea* (Hervier) is elucidated and synonymised with *V. exasperatum* (Gmelin).

Family CYPRAEIDAE

Genus *Cypraea* Linnaeus, 1758

Cypraea Linnaeus, 1758, Syst.Nat. ed.10:718. Type species by SD (Montfort, 1810) *C. tigris* Linnaeus, 1758. Recent, Indo-Pacific.

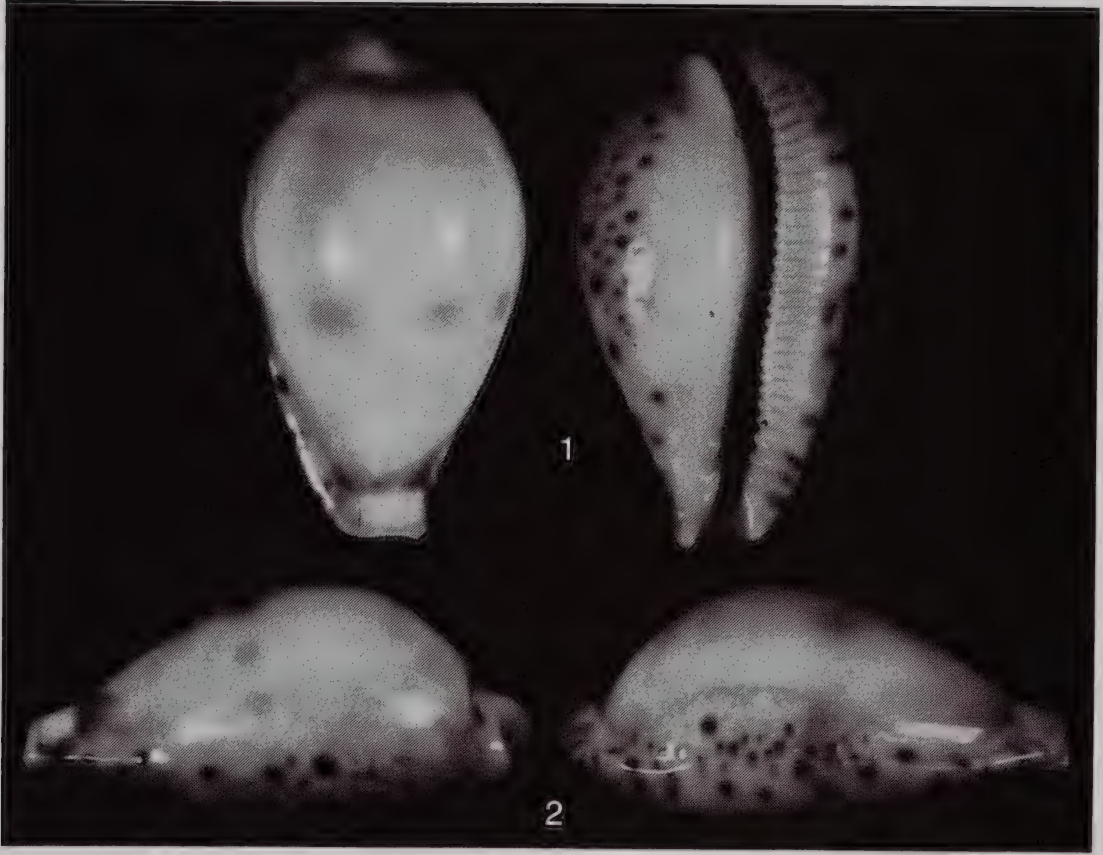
Cypraea (*Notadusta*) *katsuae* (Kuroda, 1960) (Figs. 1,2)

1960. *Erronea* (*Gratiadusta*) *katsuae* Kuroda, Cat.moll.fauna Okinawa p.74, pl.3, figs.32-34.
1961. *Notadusta musumea* Kuroda & Habe in Habe, Col.illustr.shells Japan 2:42, App.p.14, pl.19,fig.18.
1964. *Notadusta martini katsuae* (Kuroda), Habe, Shells west.Pacif.col. 2:65, pl.19,fig.18.
1970. *Cypraea musumea* Kuroda & Habe, Burgess, Living cowries p.61, pl.4, fig.E; 1982 Abbott & Dance, Compendium Sea-shells p.91, fig.top row right.
1970. *Cypraea katsuae* Kuroda, Burgess, *ibid.*, p.68, pl.4,fig.G; 1979 Walls, Cowries p.240, textfigs.; 1982 Abbott & Dance, Compendium Seashells p.91, fig.second row centre.

TYPE LOCALITY. Okinawa I, Ryukyu Is (*katsuae*); Tosa Bay, Shikoku, Japan (*musumea*).

DISTRIBUTION. Japan to the Philippines. Now Solomon Is.

A specimen of the very rare *C. katsuae* (Kuroda) has been recently obtained *ex-pisces* at Marova lagoon, New Georgia I, Solomon Is, by Mr. and Mrs G. Lee. The specimen must have been only recently ingested by the fish since it shows no sign of decortication or dulling. The specimen measures length 17.6 mm, width 9.6 mm, there are 29 brown teeth on the outer lip and 28 on the columella; the shell is apricot coloured, with 2 interrupted faint bands on dorsum, a brown collar at the anterior extremity and brown spotting on the sides. The specimen lacks a fossula.



Figs. 1,2. *Cypraea (Notadusta) katsuae* (Kuroda). Marova lagoon, New Georgia I, Solomon Is; 17.6 mm. 1. Dorsal and ventral views. 2. Lateral views.

There is some taxonomic confusion concerning the species *C.katsuae* and *C.musumea*. Habe (1964) himself placed *C.musumea* in synonymy of *C.katsuae* as a form, and considered the latter to be a subspecies of *C.martini* Schepman, 1907. Burgess (1970) and Abbott & Dance (1982) consider them to be distinct species, while Walls (1979) treats them as conspecific. The two species are separated on the basis of either presence or absence of fossula, but the reliability of this character is somewhat suspect and further research is indicated.

Family MURICIDAE

Subfamily THAIDINAE

Genus **Thais** Röding, 1798

Thais Röding, 1798, Mus.Bolten. p.54. Type species by SD (Stewart, 1927) *T.lena* Röding, 1798 = *Nerita nodosa* Linnaeus, 1758.

Thais squamigera (Deshayes in Belanger, 1832)

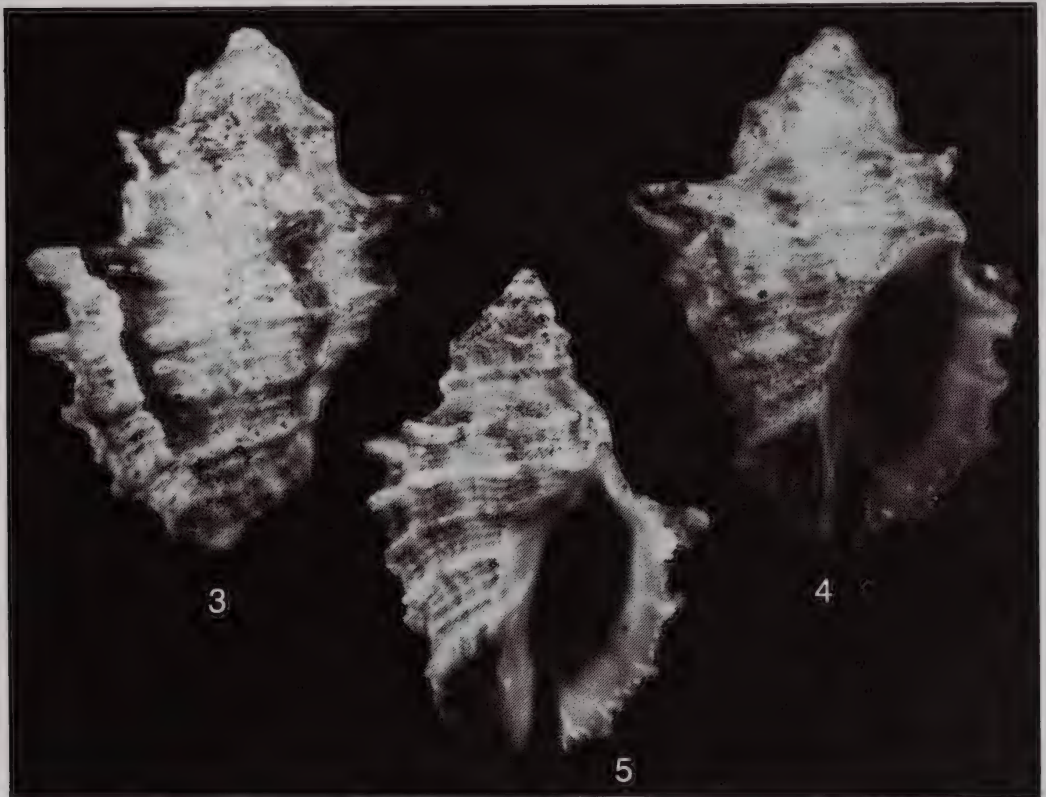
(Figs.3-5)

1832. *Purpura squamigera* Deshayes in Bélanger, Voy.Indes-Orient.,Zool.Moll. p.426, pl.13,figs.10-12 (spelled *squamata* on plate); 1844 Deshayes & Edwards, His.nat.anim.s.vert. ed.2, 10:103.

TYPE LOCALITY. Iles de la Sonde [= Sunda Is, Indonesia].

Type specimens. Three syntypes of *Purpura squamigera* Deshayes are in the Museum National d'Histoire Naturelle, Paris. One of the larger syntypes, length 30.4 mm, width 22.5 mm, has c. 5 whorls, 9 axial folds on the penultimate and 7 on the body whorl, 1 spiral row of echinate fronds on the penultimate and 5 rows on the body whorl; the outer lip has 5 lirate denticles and the columella is smooth and brown, exterior of shell dirty white, with some fronds blackish-brown (Figs. 3,4). Dimensions of smaller syntype length 24.9 mm (Fig. 5).

Tryon (1880) erroneously synonymised *Purpura squamigera* Deshayes with '*Ricinula undata* Chemnitz' (= *Cronia margariticola* Broderip). The species is similar to *Thais rugosa* (Born,1778) and differs from that species mainly in the chocolate-brown aperture of *Thais squamigera*.



Figs. 3-5 *Thais squamigera* (Deshayes in Bélanger). Sunda Is, Indonesia. Syntypes Museum National d'Histoire Naturelle, Paris. 3,4. 30.4 mm. 5. 24.9 mm.

Genus **Morula** Schumacher, 1817

Morula Schumacher, 1817, Essai nouv.syst. pp.68,227. Type species by M *M.papillosa* Schumacher, 1817 = *Drupa uva* Röding, 1798. Recent, Indo-Pacific.

Morula brachys (Melvill & Standen, 1896) (Figs. 6-8)

1896. *Murex (Ocinebra) brachys* Melvill & Standen, J.Conch. 8:273, pl.9, fig.1.

TYPE LOCALITY. Lifu, Loyalty Is.

Type specimens. The holotype of *Morula brachys* (Melvill & Standen) is in the University of Manchester Museum, length 6.6 mm, width 3.3 mm. The type is worn and faded, has 6



Figs. 6-9. 6-8 *Morula echinata* (Reeve). 6. Holotype of *Murex brachys* Melvill & Standen, Manchester University Museum; 6.6 mm. 7. Holotype of *Ricinula echinata* Reeve, BM(NH) No.1968456; 9.3 mm. 8. Specimen from Faaone, Tahiti; 6.9 mm. 9. Syntype of *Morula funiculata* (Reeve), BM(NH) No.1968475; 17.0 mm.

whorls, 9 axial folds on the penultimate and 8 on the body whorl, penultimate whorl with 2 rows of nodulose cords, body whorl with a sutural row of nodules followed by a concave subsutural area and 7 nodulose cords, outer lip with 5 denticles, columella with 2 small denticles; faded cream in colour with an indication of a darker peripheral band on body whorl and darker spots between sutural nodules.

Although the type of *M. brachys* is worn and faded (Fig. 6), it is still recognizable as being conspecific with *M. echinata* (Reeve, 1846) [Figs. 7,8], of which *Engina monilifera* Pease, 1860, is another synonym. Kay (1979) erroneously illustrated the species under the name ‘*Morula funiculata* Reeve’, and placed *M. echinata* (Reeve) in synonymy. The real *M. funiculata* (Reeve), however, is appreciably different, and the syntype from the British Museum (Nat.Hist.) No. 1968475, length 17.0 mm, is here illustrated (Fig. 9).

Morula japonica (Sowerby, 1903)

(Figs. 10-12)

1903. *Pentadactylus japonicus* Sowerby, Ann.Mag.Nat.Hist. (7) 12:496.

1904. *Sistrum (Ricinula) morus* var. *borealis* Pilsbry, Proc.Acad.Nat.Sci. Philadelphia 56(1):18, pl.3,fig.31.

1952. *Drupa borealis* (Pilsbry), Kuroda & Habe, Check-list Moll.Japan p.54.

1960. *Drupa (Morula) borealis* (Pilsbry), Azuma, Cat.moll.Okinoshima, Japan p.36.

TYPE LOCALITY. Tanabe, Kii, Japan (*japonica*); Hachijojima, Izu, Japan (*borealis*).

Type specimens. The holotype of *M. japonica* (Sowerby) is in the British Museum (Nat.Hist.) No.1903.12.7.12., length 13.3 mm, width 8.0 mm. The shell is whitish, with a light violet aperture (Fig. 10). Syntypes of *Sistrum borealis* Pilsbry, are in the Academy of Natural Sciences, Philadelphia, No.85982, and the specimen illustrated by Pilsbry (1904), length 13.9 mm, width 8.0 mm, is here illustrated (Fig.11).

Kuroda & Habe (1952) placed *Pentadactylus japonicus* Sowerby, in the synonymy of *Drupa aspera* Lamarck (= *Morula uva* Röding, 1798), and listed *Drupa borealis* (Pilsbry) as a good species. *Morula japonica* (Sowerby) and *borealis* Pilsbry are, however, conspecific and the species bears a much closer resemblance to *M. spinosa* (H. & A. Adams) than it does to *M. uva*.

Genus ***Cronia*** H. and A. Adams, 1853

Cronia H. & A. Adams, 1853, Gen.Rec.Moll, 1:128. Type species by M *Purpura amygdala* Kiener, 1835. Recent, Indo-Pacific.

Cronia (Ergalatax) contracta (Reeve, 1846)

(Fig. 13)

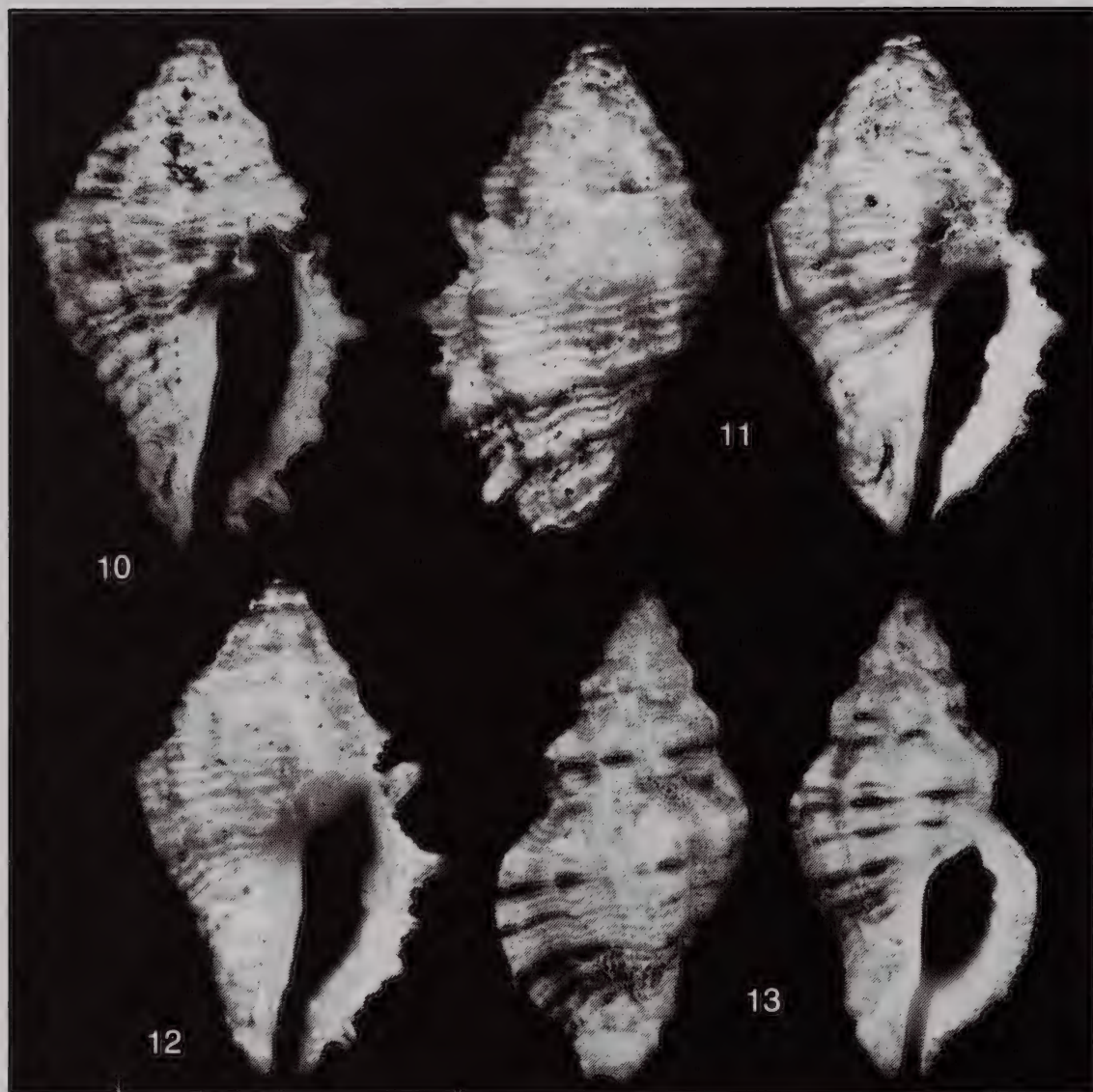
1846. *Buccinum contractum* Reeve, Conch.Iconica 3:pl.8,fig.53.

1909. *Pentadactylus ceylonicum* Preston, Rec.Indian Mus. 3(2):137, pl.22,fig.17.

1976. *Cronia (Ergalatax) contracta* (Reeve), Cernohorsky, Rec.Auckland Inst.Mus. 13:123, figs.37-41 (extended synonymy).

TYPE LOCALITY. Samar I, Philippines (*contracta*); Ceylon [= Sri Lanka] (*ceyonicum*).

Type specimens. The holotype of *Pentadactylus ceylonicum* Preston, is in the British Museum (Nat.Hist.), No. 1915.1.6.64., length 20.1 mm, width 10.0 mm. The type has 6



Figs. 10-13. 10-12 *Morula japonica* (Sowerby). 10. Holotype BM(NH) No. 1903.12.7.12.; 13.3 mm. 11,12. Syntypes of *Sistrum borealis* Pilsbry, Academy Natural Sciences, Philadelphia No.85982 (11. = 13.9 mm; 12. = 12.6 mm). 13. *Cronia (Ergalatax) contracta* (Reeve). Holotype of *Pentadactylus ceylonicum* Preston, BM(NH) No.1915.1.6.64.; 20.1 mm.

+ whorls, 10 axial folds and 12 spiral threads on the penultimate and 9 axial folds (inclusive of 2 varices) and 21 spiral cords on the body whorl, 7 denticles on the outer lip and 4 minute denticles at the base of the columella (Fig. 13).

The type of *P.ceylonicum* Preston, is a slender individual of *Cronia contracta* (Reeve) and this taxon should be added to the already extensive synonymy of that variable species.

Family NASSARIIDAE

Subfamily DORSANINAE Cossmann, 1901

Genus **Bullia** Gray in Griffith and Pidgeon, 1834

Bullia Gray in Griffith & Pidgeon, 1834, Anim.Kingd.Bar.Cuvier, Moll.&Rad. 12: pl.37, fig. 8.
Type species by *M.B.semiplicata* Gray in Griffith & Pidgeon, 1834 = *B.callosa* Wood, 1828.
Recent, Sth. Africa.

Bullia melanoides (Deshayes in Bélanger, 1832) (Figs. 14-19)

1832. *Buccinum melanoides* Deshayes in Bélanger, Voy.Indes-Orient, p.430, pl.2, figs.3,4.

1904. *Bullia (Pseudostrombus) strenaria* Melvill, Proc.Malac.Soc.Lond. 6:51, pl.5, fig.10.

1904. *Bullia (Pseudostrombus) strenaria* var.b. *melaleuca* Melvill, *ibid.*, 6:52.

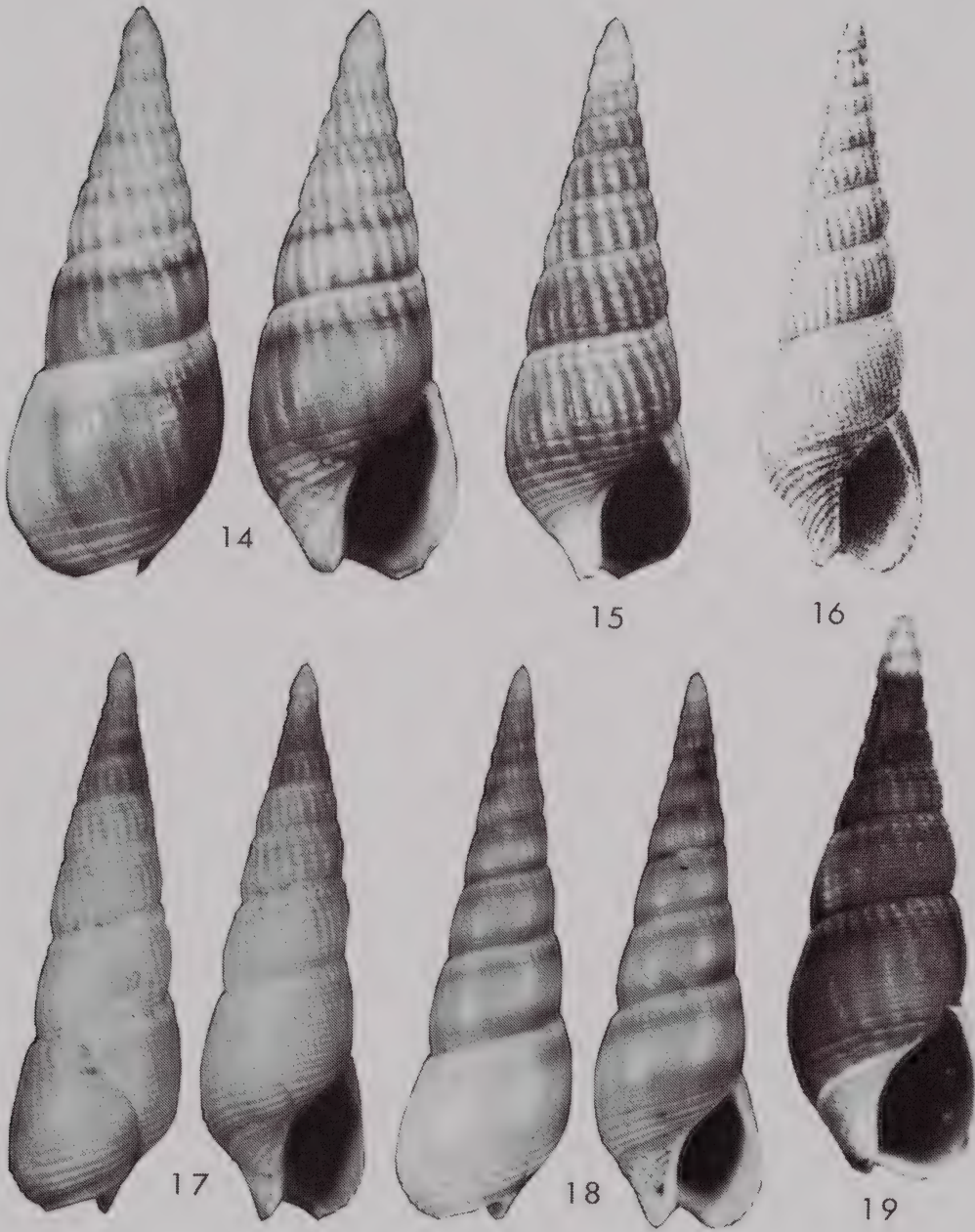
1904. *Bullia (Pseudostrombus) strenaria* var.c. *plumbea* Melvill, *ibid.*, 6:52.

TYPE LOCALITY. Ceylon [= Sri Lanka] (*melanoides*); Ormara Beach, Persian Gulf (*strenaria*); Galig I, 8 fathoms (15 m) [*melaleuca*]; Persian Gulf (*plumbea*).

Type specimens. Five syntypes of *Bullia melanoides* (Deshayes) are in the Museum National d'Histoire Naturelle, Paris, dimensions of illustrated syntypes length 20.4 mm, width 7.3 mm (fig. 14) and 20.3 mm x 6.7 mm (Fig. 15). Syntypes have a teleoconch of 6½ — 8 whorls, a protoconch of 2½ — 3½ calloused embryonic whorls, 20-23 axial ribs on the penultimate and 21-35 on the body whorl; some specimens become smoother on last 2 whorls while others are distinctly granulose. Bluish-grey, with a darker narrow subsutural band or brown, with a whitish apex and siphonal fasciole.

A tablet originally containing specimens of *B.strenaria* Melvill, marked "Persian Gulf" is in the British Museum (Nat.Hist.), London. Two specimens BM(NH) No.1898.3.16.4-5., were presented by Melvill to the British Museum under the name "*B.persica*", and one specimen ex-Sowerby & Fulton, BM(NH) No.1904.7.29.58., as *B.strenaria*. Only two specimens are remaining, and the specimen measuring length 30.0 mm, width 9.0 mm, which appears to be the specimen illustrated by Melvill (1904, pl.5,fig.10 — 30.0 x 10.0 mm) is here selected as the lectotype of *B.strenaria* Melvill (Fig. 17).

Another tablet in the British Museum (Nat.Hist.) ex-W. D. Cumming's collection from Bushire, contains four specimens, and the two centre specimens are probably syntypes of Melvill's var. *plumbea* (Fig. 19). Another specimen ex-F.W. Townsend collection from Karachi in the British Museum (Nat.Hist.), is probably the syntype of Melvill's var. *melaleuca* (Fig. 18).



Figs. 14-19. *Bullia melanoides* (Deshayes in Bélanger). 14. Syntype Museum National d'Histoire Naturelle, Paris; 20.4 mm. Broad form. 15. Another syntype 20.3 mm. Slender, granulose form. 16. Type-figure of *B. strenaria* Melvill; 30.0 mm (from Melvill, 1904, pl.5, fig.10). 17. Lectotype of *B. strenaria* Melvill, BM(NH) No.1898.3.16.4-5.; 30.0 mm. 18. Probable syntype of *B. strenaria* var. *melaleuca* Melvill, from Karachi; 33.1 mm. Smooth, slender form. 19. Probable syntype of *B. strenaria* var. *plumbea* Melvill. from Bushire; 19.8 mm.

Melville's mention of "*Bullia persica*" was an error, since *B.persica* E.A. Smith, 1878, is a *Cyllene*-like *Bullia* which is appreciably different to Melville's *B.strenaria*. The species *B.melanoides* (Deshayes in Bélanger) is a variable species, similarly to other species of the genus, and *B.strenaria* Melville, together with its varieties, falls within the variational range of *B.melanoides*.

B.cataphracta Kilburn, 1978, from Mozambique, may prove to be another synonym of *B.melanoides* (Deshayes). The holotype of *B.cataphracta* is closely similar to the granulose syntype of *B.melanoides* illustrated here, and Kilburn (1978) also mentions that the colouring of *B.cataphracta* may vary from white to deep reddish-brown.

Family MITRIDAE

Genus **Mitra** Lamarck, 1798

Mitra Lamarck, 1798. Tabl.Encycl.Méth. pl.369. Type species by T *Voluta mitra* Linnaeus, 1758 (Opinion 885 of ICZN). Recent, Indo-Pacific.

Mitra deynzeri Cernohorsky, 1980 (Fig. 20)

1980. *Mitra deynzeri* Cernohorsky, Rec.Auckland Inst.Mus. 17:145, figs.20-22.

TYPE LOCALITY. Seragaki area of west coast of Okinawa I, Ryukyu Is, Japan, 37-43 m.

DISTRIBUTION. Philippines to the Ryukyu Is and Papua New Guinea. Now Reunion Is.

A not fully mature specimen of *M.deynzeri* collected by Mr J.C. Martin at Reunion I, Indian Ocean, length 20.7 mm (Fig. 20), is a considerable westward range extension into the Indian Ocean.

Mitra (Strigatella) bellula A.Adams, 1853 (Fig. 21)

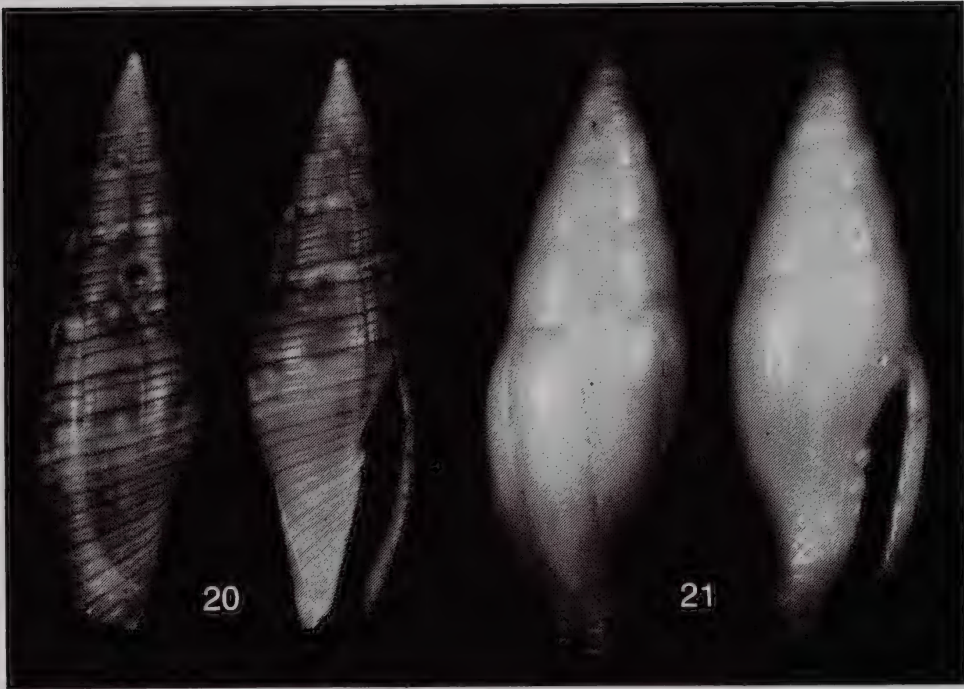
1853. *Mitra bellula* A.Adams, Proc.Zool.Soc.Lond. for 1851:138.

1976. *Mitra (Strigatella) bellula* A.Adams, Cernohorsky, Indo-Pacific Moll. 3(17):499, pl. 499 (figd. holotype).

TYPE LOCALITY. Capul I, Philippines.

To date the species has been known only from the holotype, and this led to the assumption that *M.bellula* may represent an aberrant individual of a previously described species. A specimen of this species has been recently collected at West reef, Kwajalein I, Marshall Is, in 12 m, by Mr M. McDonald, length of specimen 12.4 mm. This specimen, although collected devoid of animal, closely resembles the holotype and also shows 3 growth-scars on the dorsal side of the body whorl, as in the holotype, but it lacks the dark brown spots at the sutures.

The Marshall I record tentatively confirms *M.bellula* as a valid species, pending collection of living specimens.



Figs. 20,21. 20. *Mitra deynzeri* Cernohorsky. Reunion I, Indian Ocean; 20.7 mm. 21. *M.bellula* A.Adams. West reef, Kwajalein I, Marshall Is, 12 m; 12.4 mm.

Family COSTELLARIIDAE

Genus *Vexillum* Röding, 1798

Vexillum Röding, 1798, Mus.Bolten. p.138. Type species by SD (Woodring, 1928) *V.plicatum* Röding, 1798 = *Voluta plicaria* Linnaeus, 1758. Recent, Indo-Pacific.

Vexillum (*Costellaria*) *ochracea* (Hervier, 1897) (Figs. 22,23)

1897. *Mitra* (*Costellaria*) *ochracea* Hervier, J.Conchyl. 45(1):63; 1898 Hervier, J.Conchyl. 45(4):238, pl.10, figs.3,3a.

1981. *Vexillum* (*Costellaria*) *ochracea* (Hervier), Cernohorsky, Bull.Mus.nat. Hist.nat.Paris (4) 3(1):97, pl.2, fig.7.

TYPE LOCALITY. New Caledonia.

In a revision of J. Hervier's type-specimens of Mitracea from New Caledonia and the Loyalty Is (Cernohorsky, 1981) it was pointed out that the types of *Mitra ochracea* could not be found, and it was suggested that the species could be a worn *Vexillum* (*Pusia*) *infaustum* (Reeve, 1845).

Ms K. Way, British Museum (Nat.Hist.), London, located three specimens labelled '*Mitra ochracea* Hervier', No.1907.5.3.114-116. Although these specimens are not

documented type-material, they closely conform to the original diagnosis and illustration and may possibly have originated from either Hervier's or Melvill & Standen's New Caledonia — Loyalty Is collection.

The specimens are either whitish and banded with brown, or brown in colour and banded with white. The numerous, low axial ribs are separated by longitudinal grooves and also incised by fine spiral striae, the columella is plicate and the aperture has granulate lirae on the outer lip wall.

The specimens conform very well with the original diagnosis of *Mitra ochracea* Hervier. They also represent a low-ribbed dwarf form of the highly variable *Vexillum* (*Costellaria*) *exasperatum* (Gmelin, 1791), and this synonymy is now established.



Figs. 22-24. 22,23. *Vexillum* (*Costellaria*) *exasperatum* (Gmelin). Specimens from British Museum (Nat.Hist.) No.1907.5.3.114-115., labelled "*Mitra ochracea* Hervier" from New Caledonia; 10.0 mm and 8.5 mm respectively. 24. *V.* (*Pusia*) *millecostatum* (Broderip). Sand I, Oahu, Hawaiian Is. Dorsal view = 26.6 mm; ventral view = 24.8 + mm.

Vexillum (Pusia) millecostatum (Broderip, 1836) (Fig. 24)

1836. *Tiara millecostata* Broderip, Proc. Zool.Soc.Lond. Pt.3:195.
 1839. *Mitra antonii* Küster, Martini & Chemn.Syst.Conch.-Cab. ed.2, 5(2):77, pl.14, figs.11-13.
 1844. *Mitra adamsoni* Reeve, Conch.Iconica 2:pl.19, sp.150.
 1845. *Mitra crocea* Reeve, *ibid.*, 2:pl.38, sp.320.
 1895. *Mitra evelynae* Melvill, Proc.Malac.Soc.Lond. 1(5):221, pl.14, fig.1.
 1969. *Vexillum (Pusia) millecostatum* (Broderip), Cernohorsky, Hawaiian Shell News 17(12): 1, figs.3a,b (figd.syntypes).
 1982. *Vexillum millecostatum* (Broderip), Abbott & Dance, Compendium Seashells p.207, bottom row, fig. on left.

TYPE LOCALITY. Anaa I, Tuamotu Archipelago (*millecostatum*); none (*antonii*); Capul I, Philippines (*adamsoni* and *crocea*); Mauritius (*evelynae*).

DISTRIBUTION. From Mauritius through the tropical Indo-Pacific to the Tuamotu Archipelago. Now Hawaiian Is.

Kay (1979) does not report the species from the Hawaiian Is, but two dead specimens have been recently collected by Dr. W. Haas on Sand I, Oahu, Hawaii, and another was found in beach-rubble by Mr R. Gage in 1981.

Family VOLUTOMITRIDAE

Genus **Microvoluta** Angas, 1877

Microvoluta Angas, 1877, Proc.Zool.Soc.Lond. p.34. Type species by M *M.australis* Angas, 1877. Recent, S.E. Australia.

Microvoluta miranda (E.A. Smith, 1891) (Figs. 25-27).

1891. *Mitra miranda* E.A. Smith, Proc.Zool.Soc.Lond. p.440, pl.34,fig.12.
 1970. *Microvoluta intermedia* (Dall), Cernohorsky (*pars*), Bull.Auckland Inst. No.8:120, pl.15, fig.6 only (non *Conomitra intermedia* Dall, 1890).
 1975. *Microvoluta ponderi* Cernohorsky, Rec.Auckland Inst.Mus. 12:227, figs. 42-46.

TYPE LOCALITY. Station 164B, off Sydney, New South Wales, Australia, 410 fathoms (750 m) [*miranda*]; East of Port Jackson, New South Wales, Australia, 118 m (*ponderi*).

Type specimens. Eight syntypes of *Microvoluta miranda* (E.A. Smith) are in the British Museum (Nat.Hist.), No.1889.10.12.17-24., and the specimen measuring length 7.8 mm, width 3.6 mm, is here designated as the lectotype (Fig. 25). The holotype of *M.ponderi* Cernohorsky, is in the Australian Museum, Sydney, No. C-98330, length 11.0 mm.

Several writers expressed their doubts as to the true locality of Station 164B, because of the presence of several undoubted Atlantic forms of molluscs in the dredge-haul. Hedley (1901) discussed the problem at length and suggested an elimination of species of Station 164B from the Australian fauna.

This writer followed Hedley's suggestion and associated *M. miranda* with *M. intermedia* (Dall) from Guadaloupe, West Indies (Fig. 28). However, subsequent collection of more material of *M. ponderi* by Dr. Ponder proved the Sydney locality for *M. miranda* to be correct, and this taxon becomes the prior name for the species under discussion, with *M. ponderi* Cernohorsky, as its synonym.



Figs. 25-28. 25-27. *Microvoluta miranda* (E.A. Smith). Off Sydney, Australia. 25. Lectotype BM(NH) No.1889.10.12.17.; 7.8 mm. 26. Paralectotype BM(NH) No. 1889.10.12.18.; 8.3 mm. 27. Incomplete, axially ribbed paralectotype BM(NH) No.1889.10.12.19.; 7.8 mm. 28. *M. intermedia* (Dall). Guadaloupe I, West Indies, 908 m. Holotype National Museum Natural History, Washington, No. USNM-97102; 15.0 mm.

Microvoluta teretiuscula (Thiele, 1925)

(Fig. 29)

1925. *Mitra teretiuscula* Thiele, *Wiss.Ergeb.Deut.Tief.-Exp. "Valdivia"* 17(2): 185, pl.20, fig.23.

1970. *Microvoluta teretiuscula* (Thiele), Cernohorsky, *Bull.Auckland Inst.Mus. No.8*:120, pl.15, fig.8.

TYPE LOCALITY. Station 104, Agulhas Bank, South Africa, 35°16'S & 22°26.7'E, in 155 m.

Type specimens. The holotype of *M.teretiuscula* (Thiele) is in the Zoological Museum, Humboldt University, Berlin, length 8.3 mm, width 3.2 mm. The penultimate whorl and ante-penultimate whorl as well as first post-embryonic whorl have arcuate repair scars (Fig. 29).

The holotype confirms the correct re-assignment of *Mitra teretiuscula* to the genus *Microvoluta*.



Figs. 29,30. 29. *Microvoluta teretiuscula* (Thiele). Agulhas Bank, Sth.Africa, 155 m. Holotype Zoological Museum, Humboldt University, Berlin; 8.3 mm. 30. *Volutomitra hottentotta* (Thiele). Agulhas Bank, Sth. Africa, 155 m. Holotype Zoological Museum, Humboldt University, Berlin; 7.8 mm (photos courtesy Zoological Museum, Humboldt University, Berlin).

Genus **Volutomitra** H. and A. Adams, 1853

Volutomitra H. & A. Adams, Gen.Rec.Moll. 1:172. Type species by SD (Tryon, 1882) *Mitra groenlandica* Beck in Möller, 1842. Recent, Arctic Seas.

A chronologically prior type designation by Tryon (1882) has been found, and the designation has been emended accordingly.

Volutomitra hottentotta (Thiele, 1925) (Fig. 30)

1925. *Turricula hottentotta* Thiele, Wiss.Ergeb,Deut.Tief.-Exp. "Valdivia" 17(2):186, pl.20,fig.24.

1970. *Microvoluta hottentotta* (Thiele), Cernohorsky, Bull.Auckland Inst.Mus. No.8:124, pl.15,fig.9.

TYPE LOCALITY. Station 104, Agulhas Bank, South Africa, 35°16'S & 22°26.7'E, in 155 m.

Type specimens. The holotype of *V.hottentotta* (Thiele) is in the Zoological Museum, Humboldt University, Berlin, length 7.8 mm, width 3.3 mm (Fig. 30).

The holotype of "*Turricula hottentotta*" shows that it must be re-assigned to *Volutomitra* H. & A. Adams.

Family CANCELLARIIDAE

Genus **Neadmete** Habe, 1961

Neadmete Habe, 1961, Col.illustr.shells Japan 2:App.p.28. Type species by OD "*Cancellaria japonica* E.A. Smith, Habe, 1961" (non E.A. Smith, 1879) = *Neadmete okutanii* Petit, 1974. Recent, Japan.

Neadmete nausorensis Ladd, 1982 (Figs. 31-33)

1982. *Neadmete nausorensis* Ladd, U.S.Geol.Surv.Prof.Pap. 1171:58, pl.14, figs. 19-22.

1982. *Hindsia rewaensis* Ladd, U.S.Geol.Surv.Prof.Pap. 1171:47, pl.11, figs. 10,11.

TYPE LOCALITY. St. C2026, near Nausori, Viti Levu, Pliocene of the Fiji Is (*nausorensis* and *rewaensis*).

Through some unexplained oversight, the late Dr. Ladd (1982) described one and the same species twice as new and placed it in different families and genera. The described "*Hindsia rewaensis*" does not belong to the buccinid genus *Hindsia* (= *Nassaria* Link), but is clearly conspecific with the cancellarid *Neadmete nausorensis* from the same locality.



Figs. 31-33. *Neadmete nausorensis* Ladd. Near Nausori, Viti Levu, Pliocene of Fiji. 31. Holotype National Museum of Natural History, Washington, No. USNM-214249; 17.8 mm. 32. Paratype from same Institution No. USNM-214351; 19.0 mm. 33. Holotype of *Hindsia rewaensis* Ladd. Same Institution No. USNM-214335; 16.5 mm (after Ladd, 1982, pl.14, figs.20-22 and pl.11, figs.10,11).

Family TURRIDAE

Subfamily CLAVINAE Casey, 1904

Genus *Clavus* Montfort, 1810

Clavus Montfort, 1810, Conch.Syst. 2:435. Type species by OD *C. flammulatus* Montfort, 1810.
Recent, Indo-Pacific.

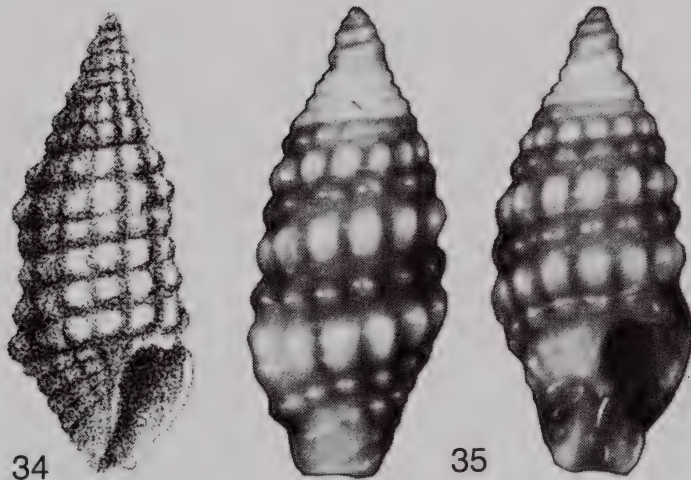
Clavus papillosus (Garrett, 1873)

(Figs. 34,35)

1873. *Drillia papillosa* Garrett, Proc.Acad.Nat.Sci. Philadelphia Pt.2:218, pl.2, fig.29.

TYPE LOCALITY. Viti Isles (=Fiji Is).

Several specimens of the species have recently been collected at Moruroa Atoll, Tuamotu Archipelago, French Polynesia (*leg.* C.Beslu). This new record probably indicates that the species is wide-spread in the Pacific but is rarely collected because of its minute size. It is readily recognizable by its prominently nodulose sculpture. Some rows of nodules are smaller than others. The base colour is cream or pale gold with some rows of nodules being coloured brown, and some basal spiral cords are finely spotted with dark brown.



Figs. 34,35. *Clavus papillosus* (Garrett). 34. Type-figure; 6.0 mm (from Garrett, 1873, pl.2,fig.29). 35. Moruroa Atoll, Tuamotu Archipelago; 4.5 mm.

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REFERENCES

- ABBOTT, R.T., and S.P. DANCE
1982 *Compendium of Seashells*. New York. 411p., col.text-figs.
- BURGESS, C.M.
1970 *The living cowries*. New York. 389p., 44 pls.
- CERNOHORSKY, W.O.
1981 Revision of J. Hervier's type-specimens of Mitracea (Mollusca, Gastropoda) from the Loyalty Islands. *Bull.Mus.nat.Hist.nat.Paris* (4) 3(1):93-109, pls.1-3.
- GARRETT, A.
1873 Descriptions of new species of marine shells inhabiting the South Sea Islands. *Proc.Acad.Nat.Sci.Philadelphia* Pt.2:209-231, pls.2,3.
- HABE, T.
1964 *Shells of the western Pacific in color*. Osaka. 2:1-233, pls.1-66.
- HEDLEY, C.
1901 Studies on Australian Mollusca. Part IV. *Proc.Linn.Soc.N.S.W.* 26(1):16-25, pl.2.
- KAY, E.A.
1979 Hawaiian marine shells. Reef and shore fauna of Hawaii. Section 4: Mollusca. *Bernice P. Bishop Mus. Spec.Pub.* 64(4):1-653, textfigs.
- KILBURN, R.N.
1978 Four new *Bullia* species (Mollusca: Gastropoda: Nassariidae) from Kenya and Mozambique. *Ann.Natal Mus.* 23(2):297-303, textfigs.
- KURODA, T., and T. HABE
1952 *Check-list and bibliography of the recent marine Mollusca of Japan*. Tokyo. 210p.
- LADD, H.S.
1982 Cenozoic fossil Mollusks from western Pacific Islands; Gastropods (Eulimidae and Volutidae through Terebridae). *U.S. Geol.Surv.Prof.Pap.* 1171:1-91, pls. 1-41.
- MELVILL, J.C.
1904 Descriptions of twenty-three species of Gastropoda from the Persian Gulf, Gulf of Oman, and Arabian Sea, dredged by Mr. F.W. Townsend, of the Indo-European Telegraph Service, in 1903. *Proc.Malac.Soc.London.* 6:51-60, pl.5.
- PILSBRY, H.A.
1904 New Japanese marine Mollusca: Gastropoda. *Proc.Acad.Nat.Sci. Philadelphia.* 56:3-37, pls.1-6.
- TRYON, G.W.
1880 *Manual of Conchology; structural and systematic. Muricinae, Purpurinae*. Philadelphia 2:1-289, pls.1-70.
1882 *Manual of Conchology; structural and systematic. With illustrations of the species. Nassidae, Turbinellidae, Volutidae, Mitridae*. Philadelphia. 4:1-276, pls.1-58.
- WALLS, J.G.
1979 *Cowries*. Neptune, N.J., 286p., col.pls.